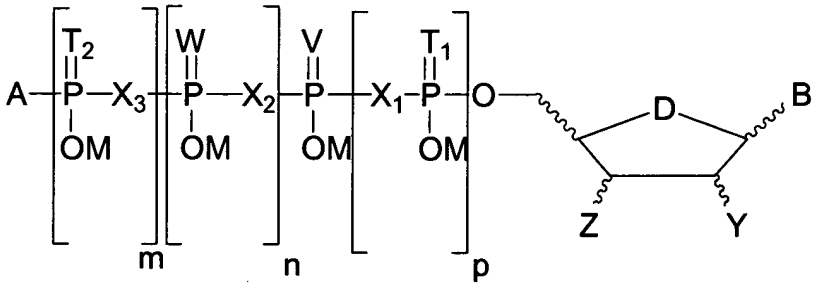
In the Claims:

1. (Previously Presented) A compound of Formula I, or a pharmaceutically acceptable salt thereof:

Formula I



wherein

A is a covalently bound substituent having a maximum molecular weight of 1000 and is OR_1 or SR_1, wherein R_1 is cycloalkyl without substituents, aryl, arylalkyl, phosphonate, or acylthioalkyl with or without substituents or heteroatoms;

X_1, X_2, and X_3 are independently oxygen, methylene, monochloromethylene, dichloromethylene, monofluoromethylene, difluoromethylene, or imido;

T_1, T_2, W, and V are independently oxygen or sulfur;

m = 0, 1, or 2;

n = 0 or 1;

p = 0, 1, or 2;

where the sum of m+n+p is from 0 to 5;

M = H or a pharmaceutically-acceptable inorganic or organic counter ion;

D = O or CH_2;

B is a purine or a pyrimidine residue according to general Formulae IV and V which is linked to the 1' position of the furanose or carbocycle via the 9- or 1- position of the base, respectively;

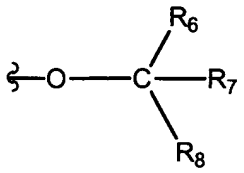
Y = H, OH, or OR_4;

Z = H, OH, or OR_5; with the proviso that Y and Z are both not H;

R_4 and R_5 are residues which are linked directly to the 2' and /or 3'

oxygens of the furanose or carbocycle via a carbon atom according to Formula II, or linked directly to the two 2' and 3' oxygens of the furanose or carbocycle via a common carbon atom according to Formula III;

Formula II



wherein:

O is the corresponding 2' and/or 3' oxygen of the furanose or carbocycle;

C is the carbon atom;

R_6, R_7, and R_8 are H, an alkyl, cycloalkyl, aralkyl, aryl, substituted aralkyl, or substituted aryl, such that the moiety defined according to Formula II is an ether; or

R_6 and R_7 are H, an alkyl, cycloalkyl, aralkyl, aryl, substituted aralkyl, or substituted aryl, and R_8 is alkoxy, cycloalkoxy, aralkyloxy, aryloxy, substituted aralkyloxy, or substituted aryloxy such that the moiety defined according to formula II is an acyclic acetal or ketal; or

R_6 and R_7 are taken together as oxygen or sulfur doubly bonded to C, and R_8 is alkyl, cycloalkyl, aralkyl, aryl, substituted aralkyl, or substituted aryl, such that the moiety defined according to Formula II is an ester or thioester; or

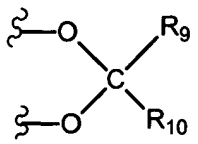
R_6 and R_7 are taken together as oxygen or sulfur doubly bonded to C, and R_8 is amino or mono- or disubstituted amino, where the substituents are alkyl, cycloalkyl, aralkyl, aryl, substituted aralkyl, or substituted aryl, such that the moiety according to Formula II is a carbamate or thiocarbamate; or

R_6 and R_7 are taken together as oxygen or sulfur doubly bonded to C, and R_8 is alkoxy, cycloalkoxy, aralkyloxy, aryloxy, substituted aralkyloxy, or substituted aryloxy, such that the moiety according to Formula II is a carbonate or thiocarbonate; or

R_8 is not present and R_6 and R_7 are taken together as oxygen or sulfur doubly bonded to C and both the 2' and 3' oxygens of the furanose are directly bound to C to form a cyclical carbonate or

thiocarbonate;

Formula III

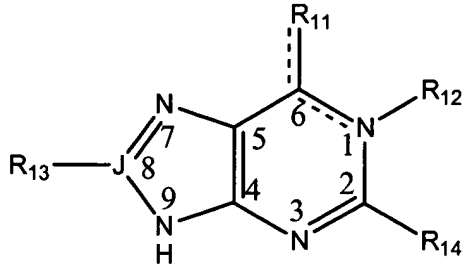


wherein:

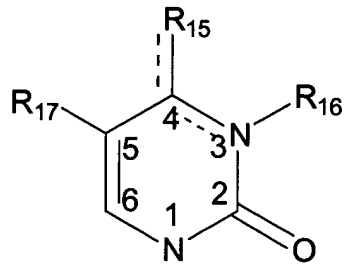
O is the 2' and 3' oxygens of the furanose or carbocycle; and the 2' and 3' oxygens of the furanose or carbocycle are linked by a common carbon atom to form a cyclical acetal, cyclical ketal, or cyclical orthoester;

for cyclical acetals and ketals, R_9 and R_{10} are independently hydrogen, alkyl, cycloalkyl, aralkyl, aryl, substituted aralkyl, substituted aryl, or can be joined together to form a homocyclic or heterocyclic ring composed of 3 to 8 atoms; for cyclical orthoesters, R_9 is hydrogen, alkyl, cycloalkyl, aralkyl, aryl, substituted aralkyl, or substituted aryl, R_{10} is alkyloxy, cycloalkyloxy, aralkyloxy, aryloxy, substituted aralkyloxy, or substituted aryloxy;

Formula IV



Formula V



wherein:

R_{11} and R_{15} are hydroxy, oxo, amino, mercapto, alkylthio, alkyloxy, aryloxy, alkylamino, cycloalkylamino, aralkylamino, arylamino, diaralkylamino, diarylamino, or dialkylamino, where the alkyl groups are optionally linked to form a heterocycle; or

R_{11} and R_{15} are acylamino; or

when R_{11} in a purine or R_{15} in a pyrimidine has as its first atom nitrogen, R_{11} and R_{12} or R_{15} and R_{16} are taken together to form a 5-membered fused imidazole ring optionally substituted on the etheno ring with alkyl, cycloalkyl, aralkyl, or aryl moieties;

when R_{15} in a pyrimidine has as its first atom oxygen, R_{15} and R_{17} are taken together to form a 5-membered dihydrofuran ring, optionally substituted on the dihydrofuran ring with alkyl, cycloalkyl, aralkyl, or aryl moieties;

J is carbon or nitrogen, with the provision that when nitrogen, R_{13} is not present;

R_{12} is hydrogen, O or is absent;

R_{16} is hydrogen, or acyl;

R_{13} is hydrogen, alkyl, bromo, azido, alkylamino, arylamino or aralkylamino, alkoxy, aryloxy or aralkyloxy, alkylthio, arythio or aralkylthio, or ω-E(C_{1-6} alkyl)G-, wherein E and G are independently amino, mercapto, hydroxy or carboxyl;

R_{14} is hydrogen, chlorine, amino, monosubstituted amino, disubstituted amino, alkylthio, arylthio, or aralkylthio, where the substituent on sulfur contains up to a maximum of 20 carbon atoms, with or without unsaturation; and

R_{17} is hydrogen, methyl, alkyl, halo, alkyl, alkenyl, substituted alkenyl, alkynyl, or substituted alkynyl.

2. (Previously Presented) The compound according to Claim 1, wherein:

A is OR_1 or SR_1, wherein R_1 is cycloalkyl without substituents, aryl, arylalkyl, phosphonate, or acylthioalkyl with or without substituents or heteroatoms;

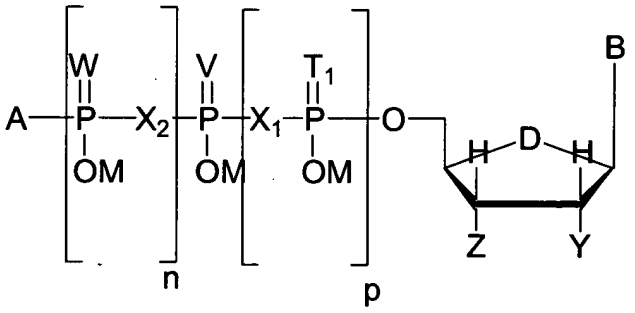
X_1, X_2, and X_3 are each oxygen;

T_1, T_2, W, and V are each oxygen;

D =O.

3. (Previously Presented) The compound according to Claim 1, wherein Formula I is a compound of Formula Ia:

Formula Ia



wherein the variable groups have the definitions as described in Claim 1.

4. (Canceled)

5. (Original) A pharmaceutical composition comprising a compound of Formula I of Claim 1 in a pharmacologically acceptable carrier.

6. (Previously Amended) A compound selected from the group consisting of : 2'3'-O-methylenebenzyl β-(cyclohexyl) UDP, 2'-phenylcarbamoyl β-benzyl UDP, 2'-(phenoxy)formyl β-propyl UDP, 6-phenyl-furanopyrimidine riboside β-(3-carboxyphenyl)methyl diphosphate, 4-thiobenzyl pyrimidine riboside β-benzyl diphosphate,

2',3'-dibenzoyl β-propyl UDP, 5-(3-methoxyphenyl)ethenocytosine 2'-deoxy-3'-phenylcarbamoyl riboside β-propyl diphosphate, N^4-propyl-2',3'-dibenzoyl β-benzyl CDP, 2'-deoxy γ-benzyl UTP, γ-(thiocyclohexyl) UTP, 6-(3-methylphenyl)-furanopyrimidine riboside δ-(2-naphthalenemethyl) tetraphosphate, 2'3'-O-methylenebenzyl γ-propyl UTP, 5-(3-methylphenyl)ethenocytosine 2'3'-O-methylenebenzyl riboside δ-propyl tetraphosphate, 5-(3-methoxyphenyl)ethenocytidine riboside γ-(2-naphthalenemethyl) triphosphate, N^4-(benzyloxyformyl)-2'-deoxy γ-benzyl CTP, N^4,3'-dibenzoyl-2'-deoxy γ-(2-naphthalmethyl) CTP, 2'3'-O-methylenebenzyl γ-(2-naphthalene) ATP, 2-thiopropyl-2'3'-O-methylenebenzyl γ-benzyl ATP, and 2-thiomethyl-N^6-propyl-2'3'-O-methylenebenzyl γ-(2-naphthalene) ATP.

7. (Previously Amended) The compound according to Claim 6, wherein the compound is selected from the group consisting of: 2'3'-O-methylenebenzyl β-(cyclohexyl) UDP, 5-(3-methoxyphenyl)ethenocytosine 2'-deoxy-3'-phenylcarbamoyl riboside β-propyl diphosphate, 2'3'-O-methylenebenzyl γ-(propyl) UTP, 5-(3-methylphenyl)ethenocytosine 2'3'-O-methylenebenzyl riboside δ-propyl tetraphosphate, and 2-thiopropyl-2'3'-O-methylenebenzyl γ-benzyl ATP.

8. (Canceled)

9. (Currently Amended) The pharmaceutical composition according to Claim [[8]] 5, wherein the compound is in a formulation selected from the group consisting of: aqueous solution, liquid/liquid suspension, gel, gel-like, and solid formulations.

10-20. (Canceled)